# LANDSLIDES

## INVESTIGATION AND MITIGATION

SPECIAL REPORT 247

A. Keith Turner
Robert L. Schuster
*Editors*

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COVER Damage to railroad line in Olympia, Washington, caused by slope failure after 1965 Seattle-Tacoma earthquake (photograph courtesy of G.W. Thorsen, Washington Department of Natural Resources). *Top inset:* October 1986 reactivation of Cucaracha landslide in Gaillard Cut, Panama Canal, which originally extended across canal (dredges had removed much of toe by time of photograph); white material in upper center is lime added to surface as remedial measure (photograph courtesy of Panama Canal Commission). *Bottom inset:* Recurring landslide on Colorado State Highway 133 at McClure Pass west of Aspen, spring 1993 (photograph courtesy of T.E. Taylor, Colorado State Patrol).

FRONTISPIECE Derailment of *California Zephyr* passenger train near Granby, Colorado, in April 1985 caused by minor landslide (see Figure 2-6, p. 18) (photograph courtesy of R. L. Schuster).

TITLE PAGE *Inset:* Railway and highway at Howe Sound, British Columbia, blocked by October 1990 rock fall, which originated approximately 300 meters above highway (photograph courtesy of D. Howard, *Vancouver Sun*). *Background:* detail from drawing by Alexandre Collin (1846) of landslides in clay slopes along French canals (see Figure 1-5, page 9).

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